NAVY MEDICINE

September-October 2009

NAVY MEDICINE

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Articles and Book Review Submissions

Navy Medicine considers for publication photo essays, artwork, and manuscripts on research, history, unusual experiences, opinions, editorials, and professional matters. Contributions are suitable for consideration by *Navy Medicine* if they represent original material, have cleared internal security review, and received chain of command approval. An author need not be a member of the Navy to submit articles for consideration. For guidelines on submission, please contact: Janice Marie Hores, Managing Editor, Janice.Hores@med.navy.mil or 19native47@verizon.net

Navy Medicine is also looking for book reviews. If you've read a good book dealing with military (Navy) medicine and would like to write a review, the guidelines are:

- Book reviews should be 600 words or less.
- Introductory paragraph must contain: Title, author, publisher, publisher address. Year published. Number of pages.
- Reviewer ID: sample:

CAPT XYZ is Head of Internal Medicine at Naval Medical Center San Diego.

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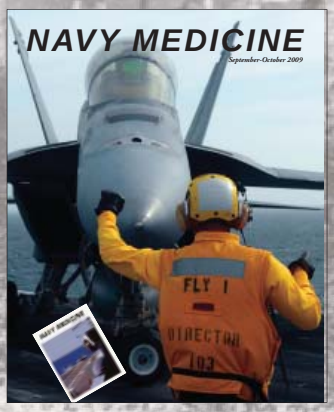

COVER: Flight deck crew wear hearing protection aboard USS *George H.W Bush* (CVN-77) Photo by MC2 Eric S. Garst. Story on page 24. Inset: 1999 *Navy Medicine* cover.

Online issue of *Navy Medicine* can be found at:
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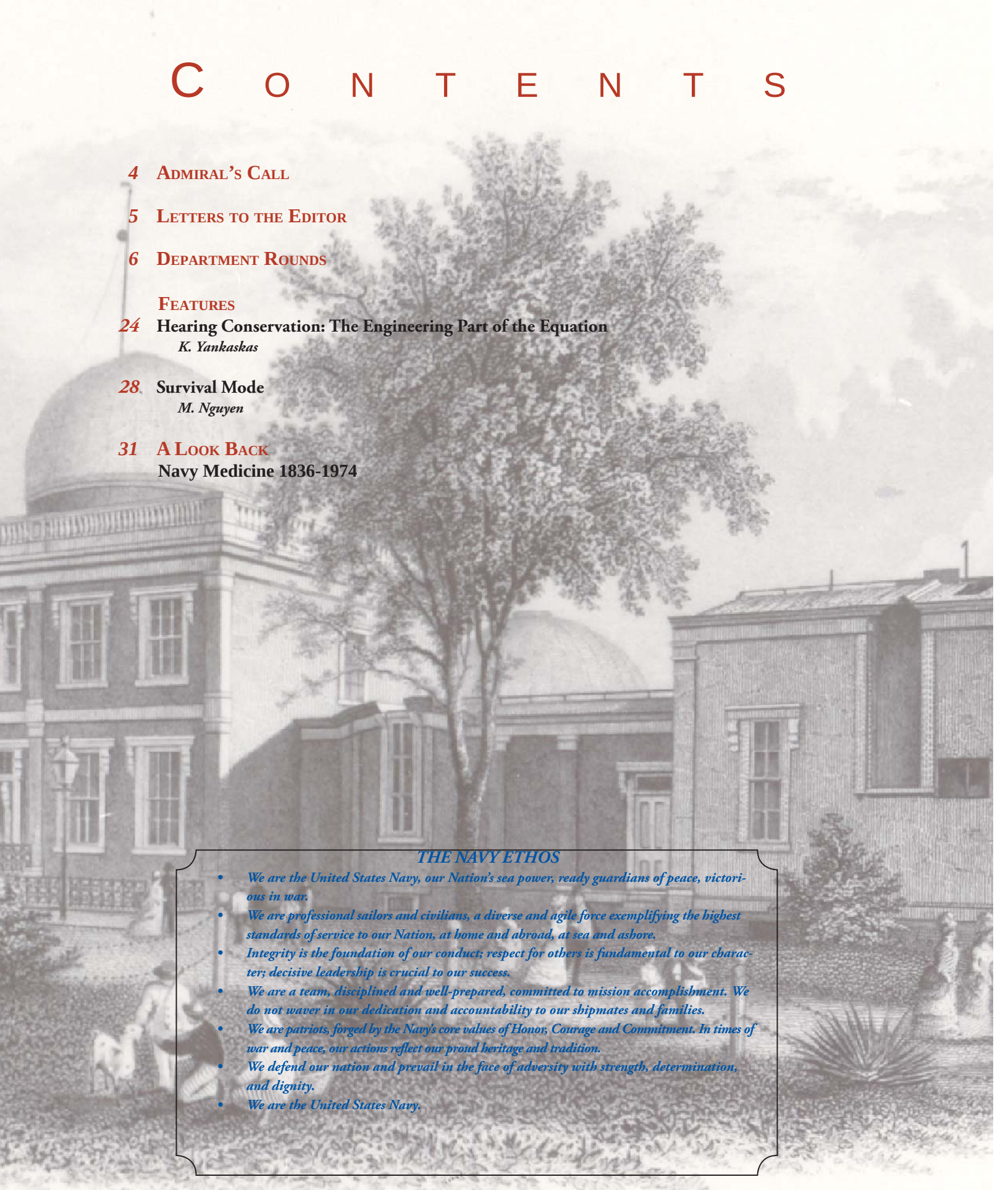


THE NAVY ETHOS

- *We are the United States Navy, our Nation's sea power, ready guardians of peace, victorious in war.*
- *We are professional sailors and civilians, a diverse and agile force exemplifying the highest standards of service to our Nation, at home and abroad, at sea and ashore.*
- *Integrity is the foundation of our conduct; respect for others is fundamental to our character; decisive leadership is crucial to our success.*
- *We are a team, disciplined and well-prepared, committed to mission accomplishment. We do not waver in our dedication and accountability to our shipmates and families.*
- *We are patriots, forged by the Navy's core values of Honor, Courage and Commitment. In times of war and peace, our actions reflect our proud heritage and tradition.*
- *We defend our nation and prevail in the face of adversity with strength, determination, and dignity.*
- *We are the United States Navy.*

Immunization Awareness

August was National Immunization Awareness Month, an appropriate time to focus our attention on this important topic. Vaccines are among medicine's most significant accomplishments, offering safe and effective protection against infectious diseases. Immunizations not only help protect individuals, they also serve as the cornerstone of our public health system protecting entire communities by preventing or reducing the spread of the disease.

Force health protection is Navy medicine's primary mission. Fundamental to this priority is ensuring a fit and healthy force ready to deploy worldwide in support of a full range of operations, from combat to humanitarian assistance. One of the most important ways we keep our sailors and Marines healthy is ensuring they have the proper immunizations. Deployments can present health challenges and immunizations are fundamental to help reduce risk of illness and injury.

The outbreak of a novel pandemic strain of influenza, known as H1N1, has understandably heightened awareness and concern throughout the world. H1N1 is a new influenza virus first detected in the United States in April 2009. It has spread world-wide and affected vast numbers of people. Military medicine, along with public health experts at all levels of federal, state, and local government, are actively engaged in this critical issue.

Preparations are already underway for the upcoming seasonal influenza program. Navy medicine has published information regarding the accelerated schedule for this year's seasonal flu vaccinations in order to potentially accommodate an additional immunization against H1N1. It is important to understand that influenza is not the common cold. Influenza can be a severe, life-threatening disease and getting the annual vaccine protects many people from contracting, and potentially becoming seriously ill. Immunization remains the primary method of protection, not only covering the individual but entire communities from the spread of disease.

The CDC advises the following as further prevention methods:

- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
- Cough or sneeze into your upper sleeve if you don't have a tissue.
- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hands cleaners are also effective.
- Avoid touching your eyes, nose, or mouth. Germs spread that way.
- Stay home if you get sick. CDC recommends that you stay home from work or school and limit contact with others to keep from infecting them.

Throughout our history, vaccines have protected our troops from dangerous infections and military medicine continues to be a leader in vaccine research and development. Navy medicine is on the forefront of identification, detection, surveillance, and control of infectious diseases around the world. These efforts are vital to protecting sailors and Marines world-wide.

Since family readiness is force readiness, family members must also pay close attention to ensure they have their all required immunizations. As another school year begins and college-age students leave for their campuses, take the time to see that your family is up-to-date on their immunizations.

Additional information about military vaccines is available at ***www.vaccines.mil***. Both the CDC and U. S. Food and Drug Administration are also updating pertinent influenza information at ***www.flu.gov*** and ***www.fda.gov***, respectively. Navy medicine will be monitoring the seasonal influenza virus carefully over the coming weeks and months and will be proactive in developing contingency plans to address any public health issues as needed.

VADM Adam Robinson, Jr.

Letters to the Editor

Dear Ms.Hores,

I just wanted to write to let you know that although I have been retired from the Navy Medical Department for nearly 20 years, I still enjoy keeping up with what is going on by reading *Navy Medicine*. Every feature from the Surgeon General's Admiral's Call to A Look Back makes me proud to have served almost 40 years in Navy medicine.

From Hospital Apprentice to Vice Admiral, our medical department Hospital Corpsmen, Medical Corps, Dental Corps, Nurse Corps, and Medical Service Corps continue to to do their very best and lead the way in peace and war. By caring for people around the globe, they serve as our ambassadors for our nation. Their kindness and caring often do more than all the bullets and bombs that are expended in the name of peace.

I remain,
Respectfully,
George S. Harris
Captain, Medical Service Corps,
U. S. Navy (Retired)

Dear Janice,

I just read the July-August 2009 of *Navy Medicine*. What a great publication.

The articles are very informative and keeps me up to date with the latest happenings in Navy medicine.

Of particular note, I enjoyed the In Memoriam article on Mr. George Whalen.

I noted Mr. Robert Bush was mentioned in the same article. I never had the pleasure of meeting Mr. Whalen.

During my tenure as Command Master Chief, 1st Marine Division, we celebrated the first annual Dinning In for Navy Chief Petty Officers on Camp Pendleton. I was able to invite Mr. Bush to be the guest speaker for this event. He accepted gladly and attended with his lovely bride.

It was a special time as this was the Bush's anniversary on the date of the dinning in. Camp Pendleton CPO wives had a special reception for Ms. Bush after the Dinning In. Most of the CPO's present had never had the pleasure of meeting a MOH recipient. What a great time for all.

Keep up this excellent publication, I look forward to the next issue.

R/Jim Lowery
HMCM/FMF/USN/RET

Correction

Janice,

Great article by Marsha Childs about "Boats" Cunningham and his memories. However, the *Hornet* at Midway was CV-8 not 12. CV-8 was sunk at the battle of the Santa Cruz Islands later that year and CV-12 joined the fleet in 1943 and was originally to be called *Kearsarge* but was changed to *Hornet* when CV-8 was lost. I sailed on *Hornet* CVS-12.

Respectfully,
Hal Raper Jr. Capt. DC USNR_Ret

Captain:

Thank you so much for making the correction. I appreciate your input and your bit of history.

Janice Marie Hores
Managing Editor

RADM Christine M. Bruzek-Kohler, NC, Commander, Navy Medicine West and Naval Medical Center San Diego shares a few moments with Carol Mus in Naval Hospital Bremerton's Pharmacy during her visit and tour of the Pacific Northwest. Photo by Douglas H. Stutz, NHB PAO

Navy Preventive Medicine in Afghanistan

Fleet Forces Command and Navy medicine deployed two officers and nine preventive medicine technicians to provide preventive medicine support to U.S. forces in the southern region of Afghanistan. The team attended Navy Mobilization and Processing Site (NMPS) San Diego, Navy Individual Augmentee Combat Training, and advanced training at Udari Range in Kuwait. Selected personnel were sourced from Navy Environmental and Preventive Medicine Units Two and Five; National Naval Medical Center Bethesda; Naval Hospitals Beaufort, Yokosuka, Camp Lejeune; Naval Medical Clinics Willow Grove, Meridian, and Port Hueneme.

Upon arrival in Kandahar, they established a Navy Preventive Medicine Detachment as a direct reporting unit to the 30th Medical Command.

Temporary workspace was constructed and the team began conducting mission analysis in order to prioritize preventive medicine efforts to support forward operating base expansion projects in the region. At the same time LPO HM1 Andrew Luque conducted equipment and procedures training in air monitoring, advanced water sampling, and advanced water testing. "The forward operating bases expansion includes new sources of water for various uses. Once our technicians hit the ground at a forward operating base, they are on their own to ensure they collect and test water samples to ensure that new water sources can be approved as fast as possible. Properly training our technicians in a standardized method avoids mistakes and ensures that we get the mission done right the first time" Luque said.

Unique opportunities have arisen while the detachment is deployed. Four members of the detachment team and one soldier from the 82nd Airborne Division led an effort to support a Canadian Operational Mentorship and Liaison Team (OMLT) to teach 12 Afghan National Army (ANA) medics a standardized hygiene and sanitation course. HM2 Estela Rojas, PFC Abel Arriaga, and HM1s Andrew Luque, Travis Cummings, and Justin Lawrence taught individual courses in personal hygiene, field sanitation team operations, heat and cold injuries, water supply, field waste disposal, field foodservice, arthropod-transmitted diseases, toxic industrial materials, and force health protection. The team was further challenged by the requirement to work with and teach the ANA students through four Dari/Pashto interpreters so the course could be taught in both languages. "We didn't have any idea how to teach complicated information to students that might not be able to read or write. We were nervous and a little scared, we didn't know what to expect and we couldn't wait to get there," said HM1 Lawrence. The students displayed their skills at the end of the class by performing basic inspections and treating field water supplies. The course ended with a small graduation ceremony hosted by the ANA Base Commander. "Before we left that day we had 12 new friends and we believed that the lives of these 12 men would never be the same. We only hope that they can teach 12 more" said Lawrence.

Course instructors and their interpreter. Photo courtesy of LCDR Bailey

"The long term positive impact on the health of the ANA population cannot be underestimated as a result of what these students have learned," wrote LCDR Jeff Biddiscombe, the Canadian OMLT leader in a letter to the 30th Medical Command Commander.

The Navy Preventive Medicine Detachment is scheduled to be replaced by a new team in the fall.

–Story by LCDR Keven Bailey, MSC, USN, Detachment Officer-in-Charge.

NHB Health Promotion 2009 West Sound Safety & Health Expo

Health Promotion personnel from Naval Hospital Bremerton shared health and wellness information, provided presentations on safety issues, and promoted medical readiness for active duty and civilian alike as part of the 2009 West Sound Safety and Health Expo held 18-19 August.

"Our mission has always been to promote optimal health, wellness, and readiness," exclaimed Janet Mano, NHB Health Promotion head. "We love coming to an event like this and taking full advantage in getting those attending to increase their knowledge and get in touch with their own health and wellness."

The Expo, a partnership with Puget Sound Naval Shipyard & Intermediate Maintenance Facility and the City of Bremerton was held for the second consecutive year at the Kitsap Conference Center and along the Bremerton Boardwalk. Although most of the participants were shipyard work-

HN Joel West of Naval Hospital Bremerton's Health Promotion Department passes on health and wellness information with one of the approximately 1,700 daily visitors to the 2-day 2009 West Sound Health & Safety Expo. Photo by Douglas H. Stutz, NHB PAO

ers from Puget Sound Naval Shipyard and staff from Naval Base Kitsap Bremerton, the event was open to the general public to visit the exhibits and hands-on displays. Over 1,700 people visited each day of the 2-day event.

"There really is nothing like this anywhere else," Mano noted. "The overall coordination with the community, as well as the partnership between the shipyard, the Navy region, and Navy bases is inseparable. The healthcare and safety of everyone involved here is so intertwined. This expo gives everyone a chance to branch out and really learn as much as they can on a number of topics and presentations.

Presentations by health phromotion staff included: Eating for Energy and Health, Heart Smart, Practice Where You Are, and Skin Cancer: Vitamin D and other prevention strategies.

Civilian chiropractors and medical care, Fleet and Family Support Programs, City of Bremerton Parks and Recreation, and a host of other industrial, manufacturer, and business health-related companies were represented. The NHB Health Promotion table drew a steady throng of visitors all through the day. Questions were continually fielded, many concerning eating habits and portion control. "I also answered a lot of questions on how to prevent diabetes by explaining a simple formula of exercising for at least 30 minutes a day, cutting down on sugar, and watching what one eats can all really help," said HM3 Zackary Hanson.

"By sharing our information on health and wellness today, we're helping others make better decisions tomorrow," stated HN Joel M. West.

"I knew the health promotion table would help me increase my knowledge on personal health," commented Richelle Robinson, Everest College medical assistant student, who was attending the Expo with others on her lunch break.

The Expo is but one of numerous community relations events that NHB's Health Promotion Department engages in. Janet Mano and her staff have already participated in more than two dozen events this year, such as volunteering at the annual Military Appreciation Day and Heroes Welcome, monthly symposiums at Naval Base Kitsap Bangor and Bremerton bases and quarterly commissary tours. The most popular events involving the community continue to be Car Seat Fittings and Bike and Ski Helmet/Lifejackets Fittings. Car seat fittings can be held appointment at NHB at 360-475-4997 or at ***nhbhealthpromotion@med.navy.mil***.

For more information on additional programs, services and events on health and wellness, please contact NHB Health Promotion at 360-475-4541.

–Story by Douglas H. Stutz, NHB Public Affairs.

NEPMU-2 Tests for H1N1

Navy Environmental and Preventive Medicine Unit No. 2 is the first Navy lab on the East Coast to have the capability to test human samples for H1N1 (swine) influenza. It began confirmatory testing in early August.

NEPMU-2 is a unit of Naval Medical Center Portsmouth located at Norfolk Naval Station. It supports fleet units and operational forces as well as the 14 Navy Medicine East hospitals by providing FDA-approved confirmatory testing for H1N1. The lab's geographic area of responsibility includes the U.S. east of the Mississippi River, Central America, South America, Africa, Europe, and the Middle East. Two similar Navy units handle the rest of the world. NEPMU-2 augments the Naval Health Research Center in San Diego, state health departments and the Centers for Disease Control labs in H1N1 testing.

By analyzing samples in Norfolk without having to send them on a time-consuming journey to a lab outside the region, doctors will get results quicker. This helps get patients the appropriate treatment quicker and implementation of specific public health measures to help contain spread of disease.

"We are a military extension of the CDC," said NEPMU-2's Officer in Charge, CDR Todd Wagner. "We look out for the overall public health and safety of our service members and their dependents."

The NEPMU-2 lab and lab technicians are certified and follow all federal laboratory regulations to ensure personal and public safety. Analysts wear booties, lab coats, masks, eye protection, and double gloves at all times when running samples. The new testing includes automated stations which can detect DNA and RNA unique to the H1N1 virus.

The lab has a Biosafety Level 2+ classification, which means its technicians work with viruses and bacteria that are communicable and for which immunization or antibiotic treatment is available. NEPMU-2 will move into a new building next year which will house a Biosafety Level 3 lab, allowing a higher level of surveillance and detection. This will

Biohazard sign: HM2 Mark Webb vigilantly monitors the lab's new testing system at NEPMU-2. Photo by MC2(AW/SW) William Heimbuch, USN

include the addition of showers to maintain a safe environment.

In addition to the technicians at NEPMU-2, the unit will cross-train lab techs from NMCP's clinical lab to augment staffing if a surge of samples comes in. Initially, the lab will have the maximum capacity to test approximately 50 samples a day and 300 samples per week.

After a patient's sample is obtained, it is rushed to the lab. That's where technicians will quickly analyze it using their new equipment to determine if the patient has been infected by the H1N1 virus. This is done by DNA and RNA extraction followed by utilizing Polymerase Chain Reaction, or PCR, technology. Once a sample has been analyzed, NEPMU-2 reports the results back to the patient's command, whether it's afloat or ashore.

"We're going from longer processing times down to 48 to 72 hours," said Wagner. "This will allow for a faster response time and the appropriate treatment and other personal and public health measures to be started." Depending on the diagnosis, those measures might include increased hand washing, wearing a mask, or isolating those affected, if needed.

H1N1 testing is just one of NEPMU-2's duties. The unit will continue its primary mission to support the Navy and U.S. Marine Corps with specialized preventive medicine and occupational health expertise, and advanced deployment medical surveillance capabilities.

NEPMU-2 also serves as a detection lab, providing chemical and biological agent detection and identification capability to the war fighter. The unit deploys its members on missions that include testing and analyzing water, soil and air quality to ensure sailors and Marines are working in a safe environment.

"This is a great group and a great team," said LT Douglas Searles, a biochemist at NEPMU-2. "If there were ever a situation requiring public health response, I would not hesitate to go into a danger zone with this team."

–Story by Debroah Kallgren and MC2(AW/SW) William Heimbuch, NMCP Public Affairs.

NHB IA's Down Range Deployments adding to BUMED lore

As was the case in generations past and a current war zone away, there are new names and new places that are becoming part of the historical lore and relevant vernacular of Navy medicine. Naval Hospital Bremerton's (NHB) doctors, nurses, hospital corpsmen, and support staff are fast becoming very mindful of the new lexicon, many on the dangerous frontlines and dusty forward operating bases.

For whenever and wherever the U.S. Marine Corps deploy, so does Navy medicine. Corpsmen island-hopped in the Pacific campaign of World War II from the beaches of Tarawa to the top of Iwo Jima. They were there at Chosin Reservoir and the Inchon landing in the Korean War, as well as the Mekong Delta and Hue City during the Vietnam War. During Operation Iraqi Freedom, numerous staff members of Naval Hospital Bremerton have served as Individual Augmentees (IA) alongside the Marines and joint services from the vast desert of Anbar Province to the urban streets of Al Fallujah. The high desert and rugged terrain of Afghanistan are next. Names like Kandahar and Helmand, Zabol. and Herat are about to be introduced as places deployed and combat endured. And where lives are saved.

"There is an historical perspective in supporting the war effort for all of our personnel who are deploying to Afghanistan," said CAPTMark Brouker, NHB CO. "This is a microcosm of what is currently happening, for where the Marines go, we also go. We're committed to fighting those who are directly responsible for the attack on 9/11. This is a worthy mission and one that calls for sacrifices of being away from home and loved ones. I couldn't be more proud and wish I were going also."

According to NHB CMC Kendal S. Crane, a sailor on deployment used to refer to extended sea time on a submarine, a surface ship, or with a squadron. "An IA 'Boots on the Ground" deployment used to be almost unheard of but is now a lot more common," Crane related. "We have a number of staff members who have been IA two or three times to Iraq. The same scenario holds true; the hardest part for all of us is not where we're going or for how long, it's leaving those we care about behind."

"Those who are IA are our top priority," stated Crane. "It is an honor for us to assist them in any way we can, even if it's just making a connection with their families to establish a bond in case they need something, anything."

Most sailors will say that going on deployment is one of the highlights of their career," said Crane. "Being operational means making a difference. There is nothing like it."

Being operational as an IA in Iraq and/or Afghanistan is also fraught with peril. Every staff member is prepped as much as possible before they depart the command. Nothing is left to chance or the last minute. Loose ends are tied up. NHB makes certain everyone deploying can focus on the mission concerns ahead and not the normal issues of work and home that are left behind.

The focus is essential. There were 42 combat-related fatalities in Afghanistan for the month of July that far surpassed the number deaths from Iraq that month. There are currently

approximately 58,000 U.S. service members in Afghanistan, still less than half of the 130,000 in Iraq.

"We ensure that all of staff deploying as an IA have completed what we call their 'battle folder' check list and that they are good to go," stated HMC Nathan Sims, of NHB's Operational Readiness Department and the command IA Suitability Screening Coordinator. "Our battle folder checklist gives us the perfect tool to use for screening for medical, dental, administrative, legal, and training responsibilities."

According to Sims, the checklist has been recently standardized and mandated for Navy-wide usage by Fleet Forces Command that oversees all IA assignments. "The new checklist is a little more thorough than what we had in place and has to be finalized in a month once a staff member has been tasked with deploying," said Sims. "There are more specific requirements, such as an in-depth medical record review."

NHB's Operational Readiness Department has received correspondence from past deployers who commented how much they appreciated being able to get everything accomplished before they left the command for deployment. "Our job is to get them ready to go," Sims explained. "For example, by getting all the Navy Knowledge Online courses completed beforehand, that's one less worry before going down range. It helps to put them at ease so they can focus on the mission."

Additionally, U.S. Naval Forces Central Command set up Commander, Task Force Individual Augmentee (CTF-IA) back in 2008 to support the approximately 5,100 sailors serving in an IA capacity throughout the Middle East and Central Asia area of responsibility of NAVCENT. Through constant contact availability with CTF-IA and with NHB's Operational Readiness Department and Individual Augmentee Suitability Screening Coordinator, all is being done when needed to keep a sailor alert and careful as they become part of on-going history. One name and one place at a time.

–Story by By Douglas H. Stutz, NHB Public Affairs.

NMCP Begins Seasonal Flu Shots for Staff

While most people do not associate summertime with flu season, Naval Medical Center Portsmouth (NMCP) is changing that perception. NMCP began administering seasonal flu shots to its staff on 24 August, and its Commander, RDML William Kiser, was among the first to receive his shot. "I feel protected already," Kiser said afterward.

Seasonal flu shots should not be confused with H1N1 (swine) flu vaccines. While the seasonal flu usually peaks between November and February, the virus is in the community long before.

"We've seen low levels of seasonal flu in Hampton Roads this summer," said Cherylann Kraft, Immunization Program Manager at the medical center. "It's our goal that every staff member at NMCP gets immunized to protect themselves and prevent passing influenza to their patients."

RDML William Kiser, prepares to receive his annual influenza vaccination (flu shot) from HM Brandon Shae. Photo by MC3 Jessica Pounds, USN

With a staff of approximately 6,000 military, civilians, contractors, and volunteers at the medical center and its branch clinics, it's a major undertaking to immunize everyone. But it's not the first time it's been attempted.

NMCP's Immunization Clinic received a Certificate of Achievement from Joint Commission Resources (an affiliate of The Joint Commission, which accredits hospitals) for successfully meeting the 2008-09 Flu Vaccination Challenge. NMCP immunized 97.2 percent of its staff, a figure which does not take into account the medical center's military personnel fluctuations.

Nationally, more than 1,700 hospitals participated in the vaccination challenge; 94 percent met the challenge, vaccinating at least 43 percent of their staff. Hospitals participating in the challenge achieved an average immunization rate of 63 percent for the season.

NMCP's near perfect success rate for immunizing staff was achieved through a combination of innovation, diligence, and an ever-present desire to protect its patients from contracting influenza.

"We accomplished this via concise programs that designated vaccination for healthcare providers as a condition of employment, and increased access to vaccination to include roving teams who provided vaccination during all hours, including weekends," said Kraft. "Our program was successful as our leadership resourced us for success and actively championed the drive. Of course, the (information technology) system that was developed was critical to tracking staff immunizations."

The effort has begun again at the medical center and its branch clinics for the 2009-10 influenza season. All staff should be immunized by 1 October.

"This year, staff members will receive a personalized wallet card that verifies they have received their seasonal flu shot—they need to hang on to that," said Kraft. "On the reverse is where we will verify they've received their H1N1 vaccines, once they are available."

Flu shots are mandatory for service members, and NMCP will soon begin vaccinating shore-based and soon-to-deploy sailors. Vaccination clinics and schedules will be announced shortly for dependents and retirees.

As in previous years, the medical center will offer the FluMist nasal vaccine as well as the traditional injectible vaccine. It takes about 2 weeks after vaccination for the body to develop full protection against the strains of influenza in the vaccine.

Kraft said, "Everyone's heard it before, but handwashing and coughing and sneezing into your shoulder are, apart from getting a flu shot, the best ways to prevent the flu. And if you do get sick, stay home; don't spread your illness."

–Story by Deborah Kallgren, NMCP Public Affairs.

A Sensational Spiderriffic Situation for Students

HM2 Morgan Jensen engages in "Spiderriffic" hands-on fun with youth at the Litehouse on Naval Base Kitsap Bangor. Photo by Douglas H. Stutz

Corpsmen assigned to the Preventive Medicine Department of Naval Hospital Bremerton's Health and Education Center introduced school-age children at Naval Base Kitsap Bangor's Litehouse School-age Care Center to the insect world and it was Spiderriffic.

HM2 Dianna DaSilva, HM2 Morgan Jensen, HM2 Augustine Torres, and HM2 Daniel Zacarias joined Litehouse staff members to help educate, inform, and even entertain the enthusiastic students on spiders.

"Part of our overall responsibility is to conduct routine building inspections and sanitation checks and recently I learned that the center was planning on doing several events like this one and immediately knew that we could help teach the kids," explained Jensen. Jensen enlisted the assistance of the others, and they put together numerous displays, including several hands-on craft-building exhibits to allow the youngsters to construct their own spiders with egg cartons, as well as with empty soft-drink cans and string. "We have a lot of assets at our disposal and this is just a great way to share what we have with others. Plus, it's as fun for us as it is the kids, and it also gives us a great opportunity to teach about knowing your surroundings and understanding about sanitation."

According to Jennifer Criss, Litehouse teacher and staff member, each summer is a different theme for the day-care center. "We teach in a fun way with all the resources we can," said Criss. "Spiders, and other bugs, were our theme this particular week. Our main goal was to inform the students to always respect their environment and realize that not every insect is out to get you. We especially teach them on safety. If they get bitten, they immediately need to tell a teacher or parent. If they see something toxic, they need to immediately tell their parent, teacher, or counselor."

The toxic spiders, safely encased in glass jars and sealed vials, proved to be the big draw amongst the youngsters as they crowded around to get a close up view of a black widow spider and tarantula. An initial question posed by one of the students was if it was possible to pet one of the more dangerous spiders? The answer was a definitive "no." "The educational aspects of something like this are enormous," Criss said. "There are over 40,000 species of spiders. All are different and unique. Our students are really interested in such facts, especially when they get to interact with the topic."

"Having the corpsmen come here and helping us is wonderful," exclaimed Laurie Neal, Litehouse manager. "Our overall theme for the entire summer is 'Environmental Stewardship.' We're going to teach on such topics as recycling, taking care of nature, even gardening, and how our students can give back to nature. This week has been a lot of fun for them and our special guests are really part of that.'

"We're trying to get involved in more events like this," Jensen noted. "Every appearance helps us connect with our community and helps to educate our audience. I think most kids will go home and share with their family, which will help to spread the word."

NHB's Preventive Medicine Department focuses on the prevention of disease through population based public health actions, which includes outbreak investigations and disease surveillance such as yearly checking throughout the greater Kitsap Peninsula via survey and test for signs of West Nile Virus and immunization programs.

–Story by By Douglas H. Stutz, NHB Public Affairs.

Dental Care On the Go

For some sailors, the best thing about going to the dentist is the new car smell. On 17 August, Branch Dental Clinic (BDC) Norfolk rolled out four new state-of-the-art Mobile Dental Units (MDU). Essentially big trucks with dental suites, the MDUs treat thousands of sailors a year to maintain their dental readiness.

Each new MDU costs $375,000 and smells more like a new car than a dentist's office. Each is equipped with

digital radiography and two fully functioning dental operatories.

Because destroyers, frigates, cruisers, and submarines have no dental assets on board, the dental clinic provides pierside care to the crews at Norfolk Naval Station and Little Creek Naval Amphibious Base. Dental clinic staff schedule appointments with sailors, drive the MDU to the pier, and restore the dental readiness of the service member.

Not only is pierside dental care convenient for sailors, but it also saves commands many work hours that would be lost if crew members had to travel to appointments at brick-and-mortar dental clinics.

"Dental readiness is a key thing. To convert sailors from Class 3 to Class 1 without having to go to Sewells Point (dental clinic) really saves manpower for the commanders of ships and the line. It's hands down, the most effective way to provide service to the fleet," CDR Michael noted.

Last year, the clinic's fleet department treated more than 14,500 fleet sailors, averaging 82 patients a day using two vans. Currently there are six older units in service, and some will be retired as the new MDUs come on line. The vans also help with humanitarian missions in Hampton Roads in conjunction with the Commonwealth of Virginia.

HM3 Chantel DeValk is excited to provide more dental services and capabilities to the fleet. "We'll treat about 40 patients a day in a unit, depending on what they need. We can see up to 65 a day in each unit," she said.

BDC Norfolk is a unit of Naval Medical Center Portsmouth. Its Fleet Department has successfully deployed 144 ships at greater than 95 percent Operational Dental Readiness since 11 September 2001 with 51 of those ships at 100 percent ODR.

–Story by Deborah Kallgren, NMCP Public Affairs and CDR Joe Michael, Clinic Fleet Liaison Officer.

RDML William Kiser, center, with members of Branch Dental Clinic Norfolk. Kiser toured one of the clinic's new Mobile Dental Units at NMCP's historic Bldg, 1, the nation's first naval hospital. Photo by MC2 William Heimbuch, USN

Corpus Christi Clinic takes the Gold in Health Promotion

Naval Heath Clinic Corpus Christi (NHCCC) celebrated its fourth-consecutive Gold Star level Blue H – Navy Surgeon General's Health Promotion and Wellness award with a presentation of the pennant to the staff.

CAPT R. G. Kelley, MC, CO, and Dr. Sam Rivera, the wellness department head received the award on behalf of the clinic team. "It's great to see the results of the continued hard work and energy of our staff," stated Kelley. "Promoting good health and prevention of illness is very important and is the main reason why we're in business."

The Blue H is an annual award sponsored by the Navy Surgeon General that encourages and rewards health promotion in Navy and Marine Corps organizations. The Navy and Marine Corps Public Health Center (NMCPHC) manages the program.

NHCCC won the medical version, one of four categories, that specifically recognizes excellence in clinical primary prevention, community health promotion, and medical staff health in Navy medical organizations.

To achieve the Gold Star level award, a medical command must accumulate at least 50 percent of the total available points for every topic and category and must earn a minimum of 80 percent of the total available points.

Every organization that submits a report will receive at least the Bronze Anchor level award.

To achieve the Silver Eagle level award, a medical command must accumulate at least 50 percent of the total available points for every topic and category and must earn a minimum of 50 percent of the total available points.

The Corpus Christi clinic won the Silver Eagle level award in 2004.

Presentation of the pennant to the staff by CAPT R. G. Kelley, and Dr. Sam Rivera. Photo by Bill W. Love, NHCC PAO

"This award reflects the importance of a multidisciplinary team approach to prevention, education, and community support," stated Rivera. "It also signifies that we (NHCCC) are providing the clinical prevention, community assessment, and support that our population requires. Our goal is to provide the tools to our beneficiaries to acquire long-term healthy life style habits."

Some of the health promotion programs at NHCCC that support that goal include alcohol and drug abuse prevention; health risk assessment; injury prevention, nutrition, physical fitness, sexual health and responsibility (SHARP), stress management awareness, suicide prevention awareness, tobacco cessation, and periodic health assessments.

"Marketing the services to the community and providing support is the key to promoting healthy life style habits," remarked Rivera. "The most gratifying results are when your clients are verbalizing that the services received from the Naval Health Clinic assisted them in the reduction of unhealthy behaviors and habits."

–Story by Bill W. Love, NHCC Public Affairs.

Top to bottom: HM2 Jayson Rosa, deploying to Expeditionary Medical Facility (EMF) Kuwait; LTJG Joy Smart, a trauma nurse deploying to EMF Djbouti; and HM2 Lisa T. Gomez, deploying to EMF Kuwait, pull themselves out of a simulated improvise explosive device explosion . Photo by LCPL Damien Gutierrez, Camp Pendleton Public Affairs

Navy Medicine Personnel Receive First-Of-Its-Kind Training

More than 100 corpsmen, doctors, and nurses preparing for upcoming individual deployments completed a rigorous, first-of-its kind, 2-week course directed by Navy Medicine Support Command's Naval Expeditionary Medicine Training Institute (NEMTI) on Camp Pendleton that concluded with a field training exercise.

The course included the Tactical Combat Casualty Course (TCCC), Fleet Hospital and Expeditionary Medical Facility (EMF) pre-deployment training, and an Improvised Explosive Device (IED)/Convoy Operations Security Training Course designed to improve skills in recognizing subtle signs of the presence of an IED. The Navy medicine students, who will deploy to EMF Kuwait or Djibouti, Africa, were also trained in medical sustainment and combat survival techniques.

"This is a great way for our students to get scenario training," said CAPT Mitchell Dukovich, NEMTI officer in charge. "This is the last stop before going on deployment, and it is our job to work out any kinks they might have. After the students receive this training, they will be able to identify and quickly assess situations they might face while on deployment."

All medical personnel assigned to EMF Kuwait or EMF Djibouti are eligible to attend NEMTI training. Students attending the school vary from Navy physicians, nurses, and corpsmen, to non-medical Navy support personnel and Marines. "I feel really fortunate to be a part of the school," said CDR Deborah Roy, a nurse. "This is a terrific way to get everyone together and practice as a team."

Camp Pendleton is the only base and NEMTI the only command that provides this specialized training. "Camp Pendleton's environment is one found nowhere else in the military, and this is something we must take advantage of," said Dukovich.

It is the responsibility of all instructors at NEMTI to identify and provide assistance to any students who may be having difficulties with the curriculum. This way when they are sent off into theater, the medical personnel are ready to handle a variety of situations with ease.

"Our instructors teach at a high-level of expertise and have had a tremendous amount of deployment experience," said Dukovich. "They are a tremendous asset to this institution and are crucial to its success."

For more information go to *www.med.navy.mil/sites/navmedmpte/nomi/nemti* or contact the NEMTI Training Department at 1-888-873-1841.

–Story by LCPL Damien Gutierrez, Camp Pendleton Public Affairs.

Naval Medical Center San Diego Hosts Fitness Expo

Naval Medical Center San Diego's (NMCSD) Health and Wellness Department hosted a Fitness Expo 3 September, to advertise the variety of fitness and health classes offered to staff and beneficiaries.

The expo was part of the continuous effort to improve the health and well-being of active duty service members and beneficiaries.

"The Navy is moving toward a culture of fitness to help sailors get healthy and remain healthy all year round," said NMCSD Deputy Commander CAPT Joel A. Roos, who kicked off the Fitness Expo. "The purpose of today's event is to introduce you to the available services to learn how you can become healthier. I invite everyone to take the opportunity to do so."

There are more than 30 health and fitness classes offered at NMCSD. The combat fitness, cross training, and sport move exercise classes were just a few showcased at the expo.

"This was a good way to get people educated on fitness and being healthy," said HN Alexander Watkins.

Educators and department representatives manned nine educational booths which included a healthy cooking demonstration, diabetes awareness, stress management, healthy eating, ask the dietitian, and ask the exercise physiologist.

"Our goal is to promote overall fitness and wellness for active duty and all other eligible beneficiaries. This event specifically targets our active duty service members at NMCSD, to help better prepare them for physical readiness," said Medical Administration Officer for the Health and Wellness Department HM2 Michael L. Farmer. "We seek to provide them with the tools for life style changes that will ultimately enhance their health and well being."

HM3 Jasmine Boisvert carries her teammate while participating in the health exposition sports course exercise. Photo by MC3 Matthew N. Jackson, USN

The Fitness Expo is scheduled to be a semiannual event to coincide with the 10-week notice for NMCSD's Physical Fitness Assessment.

–Story by MC1 Anastasia Puscian, NMCSD Public Affairs.

TSEREWG 2

Photo by Mr. Bryant Nichols

CAPT Bruce Cohen, NMCPHC commanding officer, welcomes members of the Tri-service Environmental Risk Assessment Working Group at the start of the 2-day NMCPCHC-sponsored training session held 4-5 August in Portsmouth, VA. The working group is a subcommittee of the Tri-Service Environmental Support Centers Coordinating Committee (TESCCC), organized to coordinate and create better cohesion between the services in conducting ecological risk assessments (ERA) and human health risk assessments (HHRA) at sites worldwide. The TSERA-WG, along with academia, regulatory agencies and the DOD, assists in transferring the most recent technical information to member organizations pertinent to ERAs, HHRAs and their applications.

Cooperation Afloat Readiness and Training (CARAT) 2009

CAPT Chan Ichizensg, a Malaysian army dentist, examines a patient as Navy LT Brant Cullen looks on at the Seberan Tayor Primary School in Kuantan, Malaysia. Photo by MC1 Michael Moriatis, USN

HN Vincent Abella examines a student in Rayong Province, Thailand. Photo by LT Michael Morley, USN

Bangladesh Interoperability Program 2009

Locals wait in a triage area before being seen by a team of Bangladesh Army and U.S. Navy medical personnel. Photo by CPL Heather Golden, USMC

LT Angela Viers-Costello, a GMO consults with fellow Bangladesh Army GMO, CAPT Mohammad Enamul, and Bangladesh Army nurse, LT Rexy D. Cruze, about a man's diagnosis. Photo by CPL Heather Golden, USMC

Southern Partnership 2009

RIO DE JANEIRO, Brazil. HM1 Elizabeth Gracie demonstrates how to apply a splint on a broken arm to Brazilian Navy sailors aboard the amphibious dock landing ship USS *Oak Hill* (LSD-51). Photo by PVT Cory Torres, USMC

Combined Joint Task Force Horn of Africa

HM2 Porfirio Nino practices speaking Kinyarwanda, one of the official languages of Rwanda, during a civil observation mission in Bunyamanza, Rwanda. The team is in Rwanda to assess civil-military operations being conducted by the Rwandan Defense Force. Photo by MC Jon E. McMillan, USN

Helmond Province Afghanistan

HN Brian Sandou treat an Afghan boy for a head wound. The boys father brought him to the base claiming that his son had fallen into a near by canal. Photo by SSGT William Greeson, USMC

HM2 Lamonte Hammond treats an Afghan child that was hit by a tractor. Photo by CPL Artur Shvartsberg, USMC

Captain James A. Lovell Federal Health Care Center, Great Lakes, IL

The final roofing beam of the Captain James A. Lovell Federal Health Care Center is set in place during the topping off ceremony. The building will be the first completely integrated Department of Defense and Department of Veterans Affairs healthcare center. The center is scheduled for completion in August 2010. Photo by Bill Couch

CAPT Jim Lovell, USN (Ret.) and former astronaut and his wife, Marilyn Gerlach, sign the final roofing beam for the Captain James A. Lovell Federal Health Care Center. Photo by Bill Couch

Pacific Partnership 2009

ABAOKORO, Kiribati. Navy pediatrician CAPT Tamara Grigsby treats an infant during Pacific Partnership 2009. Photo by MC2 Joshua Valcarcel, USN

AUKI, Solomon Islands. CAPT Robert Carrillo and HM2 Katina Jack both embarked aboard USNS *Richard E. Byrd* (T-AKE 4) provide medical treatment to a patient during Pacific Partnership 2009. Photo by MC2 Joshua Valcarcel, USN

NHB Diversity Council holds Women's Equality Day

Making more than just a political statement with her personalized entrance, the outrageous and flamboyant May Arkwright Hutton is portrayed by Tony Douglass during her performance of "May's Vote." Photo by Douglas H. Stutz, NHB PAO

In recognition of Women's Equality Day, Naval Hospital Bremerton's Diversity Council hosted a performance on 20 August by Toni Douglass of "May's Vote." The celebration was to commemorate the 1920 ratification of the 19th Amendment to the Constitution, which assured women had voting rights.

"May's Vote" allowed staff members and eligible beneficiaries to relive history through the flamboyant portrayal of noted suffragists Emma Smith DeVoe and May Arkwright Huton through Douglass' performance. DeVoe and Huton worked to win the vote for women in Washington State, which began an entire decade before the rest of the U.S. caught up.

"Suffrage doesn't mean suffering, although we did some of that," explained Douglass, in her character of May Arkwright Huton. "Suffrage means the 'right to vote.'"

According to Douglass, the two champions of women's rights were about as different as two people could get, but they agreed whole-heartedly on the one big issue; on whether women should vote. At that time, both had endured numerous (losing) bouts of denial, rejection, and frustration in their quest for equal rights. Douglas related how May used to have her father and grandfather look at her but not see her. "I was a little girl who was not noticed," she related.

After growing up, May moved out West, and when she relocated in the Spokane area after becoming a millionaire with her husband (who struck it rich in Idaho silver mines) she met Emma, who lived in western Washington. May believed that a bawdy manner was needed, especially by her, to win the right to vote for women. "You gotta charm the pants of 'em," she said. "You don't focus on the issues; you distract 'em from it!" Her philosophy was the exact opposite from Emma, who believed that proper ladylike manner was essential in trying to influence and convince men on voting rights for women.

It wasn't until May passed away that Emma realized that their two disparate efforts didn't detract from their stated goal, but really strengthened it. They had the power of conviction in their belief. "They got it then and we've had it ever since," said Douglass, commenting on her role as May and Emma and explaining her interpretation of their struggle. "It's good to see our younger folks are now using the right to vote. We're all getting better and I hope it continues."

"I was initially shocked," said Gidget Rose, of NHB's Human Resources Department. "The character of May was very aggressive and if you're not used to that it can be overbearing. But once I realized where she was going with the act, I understood what she was portraying. It was really well done."

NHB Diversity Council teamed with Humanities Washington, a non-profit organization that is backed by the Washington State Legislature through the secretary of state's office for the Inquiring Mind Community Conversation Program to bring the performance to NHB. May's Vote is part of the VOTES FOR WOMEN project of plays and workshops about the woman suffrage movement and was written by Toni Douglass.

–Story by Douglas H. Stutz, NHB Public Affairs.

Corpus Christi Clinic Bedpan Bullet Sails To Victory In Homemade Boat Race

The Bedpan Bullet, a Naval Health Clinic Corpus Christi (NHCCC) homemade sailboat, won the 47th Annual Navy Regatta 2009 Titanic Cup race.

CAPTs Randy Kelley and Ed Perez-Lugo, the clinic's CO and XO, fabricated the craft and competed against ten others during the anything-that-can-float sailing showdown at Naval Air Station Corpus Christi (NASCC) Sunfish Beach.

"The idea to enter that race was to win it," declared Kelley. "We planned on winning it and making sure that we were able to show our aviation community brothers that we would win."

Active duty and DOD civilian sailors could qualify in the untimed contest that featured a first-across-the-line downwind course during a prevailing southeast wind averaging 18 mph.

Confident about winning because of their abundant sail area, Kelley and Perez-Lugo were not intimidated by other entries. "Even when I saw the previous year's winner," Kelley said about the defending champion, NASCC's shark teeth adorned catamaran, "I said, 'it's all over'."

Race rules were simple. Entrants from various commands on base had to build wind-powered vessels using readily available materials and purchases not to exceed $75.

Kelley, no stranger to sailing, said he and Perez-Lugo fashioned the "bedpan" into a trimaran using a discarded aircraft drop tank central hull and two smaller foam outrigger hulls.

The bright blue watercraft with its stainless steel bedpan figurehead took shape from old PVC (polyvinyl chloride) plastic pipe, foam, plywood, and assorted easy to find items. Even an unserviceable parachute that Kelley and Perez-Lugo scrounged served as one of the sails.

CAPTs Randy Kelley (left) and Ed Perez-Lugo answer a reporter's questions in front of their Bedpan Bullet. Photos by Bill W. Love, NHCC PAO

"We thought about using some shower curtains and sewing them together but they ripped apart immediately," commented Kelley, adding that some lumber and plastic tarpaulins for extra sails quickly depleted their spending limit.

Eventual they stitched the tarps together and formed battens from discarded mini blinds for the sails' foil shape.

"It was good and bad," confessed Kelley, "the mini blinds didn't hold up for the entire race because of my amateur sewing skills."

Regardless, Kelley believed that they had a good winning chance because of their abundant sail area even thought they did not have a monopoly on wind harnessing creativity.

Describing an entry that apparently had the lead advantage, its sail aloft when the race began, Kelley said that a Training Squadron 27 (VT-27) lone crewman propelled a drop tank with a huge kite sail.

"It really didn't worry me so much," remarked Kelley, "because once we trimmed our sails, I noticed that we were catching him. I honestly believed that we would have caught him through the end of the race, but there is always that apprehension. Probably about one third of the way he capsized and it was all over."

–Story by Bill W. Love, NHCCC Public Affairs.

Navy Recruiting Enlists First Applicant Through New Military Accession Program

Navy Recruiting District (NRD) Houston recruited the first foreign applicant for commissioned naval service through the Military Accessions Vital to the National Interest (MAVNI) program 28 August.

Dr. Octavian R. Adam took the oath of enlistment at NRD Houston after he was deemed qualified for the program.

Born and educated in Romania, Adam graduated from medical school in Bucharest at the age of 26, and moved to the U.S. to work and continue his studies.

Adam has worked in various hospitals around the country and his experiences have influenced his desire to serve. "Through these experiences I have grown to appreciate and love America in its diversity and history, and I would be honored to serve in the U.S. Navy and provide the best medical care for American men and women who protect this great country," said Adam.

The MAVNI program was authorized by the Secretary of Defense in 2008 to allow military services to recruit certain legal aliens whose skills are considered to be vital to the national interest.

"The point of the MAVNI program is citizenship acceleration for individuals with certain medical or linguistic proficiencies who want to serve in the U.S. military," said LT David De La Rosa, a Medical Corps officer recruiter out of NRD Houston. "Normally, it would take 4-5 years for a person seeking citizenship to get naturalized. We are accelerating this process to within 6 months."

Non-U.S. citizens have served in the military since the Revolutionary War. Today, about 29,000 non-U.S. citizens serve in uniform and approximately 8,000 legal permanent resident aliens enlist each year.

"He is the first person enlisting through the [MAVNI] program who will be commissioned as a Medical Corps officer," said LT Osmel Alfonso, Navy Recruiting Command's Medical Corps Program manager.

Alfonso has been working with De La Rosa and Adam, providing guidance through the accession process of the program.

According to Alfonso, Adam meets the professional qualifications for serving, and the Navy is currently in the process of making sure that he's qualified for naturalization. His expertise is considered vital to national interest and will greatly benefit the Navy's mission. He is a highly-skilled physician, one experienced with patients who have movement disorders.

"This MAVNI program is allowing us access to a population of healthcare professionals who normally wouldn't be eligible for commissioning in the Navy," said De La Rosa. "With this population available for recruiting, the Navy can more effectively meet its recruiting goals."

"The dream for every immigrant is to become a citizen of the United States, and there is no greater honor than to naturalize by serving in the U.S. armed forces," said Adam. "The MAVNI program provides that opportunity through its accelerated path towards citizenship."

The MAVNI program ends on 31 December 2009 or when 1,000 non-citizens have been recruited.

–Story by MC3 Jared M. Hill, Navy Recruiting Command Public Affairs, Millington, TN.

NHB's HM1 Stephanie Minix Selected As Navy's IDC Of The Year

She's a doctor, a nurse, a surgeon, an ambassador, a mentor, a teacher, and a leader, just to name a few.

HM1 Stephanie Minix isn't Superwoman, but she very well could be. Minix was awarded Independent Duty Corpsman of the Year from amongst every Navywide shore based IDC.

Serving in Iraq with the 1st Supply Battalion, USMC, from February to September 2008, Minix was a self-sufficient font of Navy medicine knowledge and ability during her time as an individual augmentee. Just as an IDC is trained to do in the field.

Minix's duties included handling patient care, administrative, and logistical duties. She conducted advanced first aid and basic life support, as well as nursing duties, minor surgeries, basic clinical and laboratory procedures, and numerous medical and healthcare needs ranging from routine to emergency. Additionally, as an IDC in the field, and especially in the austere, rustic condition of Iraq, she was also in charge of conducting and directing preventive medicine, sanitation and hygiene checks, and industrial health surveillance programs.

"Without the leadership of a medical officer," explained Minix, "An IDC must be ready to handle anything thrown their way and make do with whatever few materials or facilities they have."

Minix fulfilled her multiple roles and then some as the sole medical provider for over 2,000 Marines, other active duty personnel, civilians, and Iraqi forces. Despite the long days of typically working from 16 hours to around the clock, she treated over 100 cases a week and still found time to organize humanitarian missions to treat local Iraqi women and children, helping win the hearts and minds of the populace.

Her record boasts a 100 percent survival rate that defied would-be fatal diseases and injuries. She treated 54 emergency cases, and 46 of the injured Marines and Iraqi personnel were able to return to full duty.

HM1 Minix provides a soothing and caring hand in treating a local Iraqi child. Photo courtesy of HM1 Minix

Her most challenging case, she said, was treating a diabetic ketoacidosis (an acute, major, life-threatening complication of diabetes) during a sandstorm. With no lab support and no electricity, she resorted to using a dipstick to check the patient's glucose levels, which were dangerously low. If not for her timely and flexible medical assistance, the patient could very well have been lost.

Minix listens to a young Iraqi patient. Photo courtesy of HM1 Minix

According to Minix, now that she is back at Naval Hospital Bremerton, the hardest part of her job isn't providing timely patient care in the field, it's more dealing with administrative issues. But an IDC is also a teacher, mentor, and tutor. It is her duty to provide education to junior medical and all nonmedical personnel, along with serving primarily as a non-physician healthcare provider.

"I come to work worrying about the well-being of my docs, from their morale to their family life. Sometimes I have to be involved in their personal lives," she said. "It's a never ending job. My cell phone is never off on the weekends. There's not one weekend it doesn't go off, whether it's someone with trouble or just a question."

Her dedication to mentorship is confirmed by the litany of honors earned by her protégés. Of her sailors and five assigned protégés, one advanced to E-5, 16 enrolled in college, 2 were selected as Bluejacket of the Quarter; one was selected as Junior Sailor of the Quarter; one as Senior Sailor of the Quarter and one as Bluejacket of the Year. They also earned two Navy and Marine Corps Achievement Medals and one Flag Letter of Commendation.

"I learned as a baby corpsman you have to train the person who's going to replace you. Eighty percent of what I learned was when I was a baby corpsman," she said. "The only thing separating me from a baby doc is the numbers behind my name. I have a little more responsibility."

Minix was raised in a military family and joined the Navy after deciding that college wasn't for her. She had witnessed medical technicians and hospital corpsmen take care of her ill father for 11 years until his death when she was 16. Inspired by their compassion, she decided to become a corpsman.

In her 13-year career, she has received two Navy Commendation Medals, three Navy and Marine Corps Achievement medals, a Navy Unit Commendation and a Meritorious Unit Commendation, among others. She has also earned a Master of Arts Degree in Emergency Management and Preparedness and a Bachelor of Science Degree in Health Sciences.

How does she do it all?

Minix humbly credits her family, especially her mother, who "has done everything for me," as well as a supportive command at Naval Hospital Bremerton.

"None of this would be possible without NHB," she said. "I can't thank them enough. Everyone from the skipper on down to the emergency medicine physicians has been extremely supportive and created an environment where you want to learn more. I never hesitate to ask a question."

She's not done yet. Minix hopes to advance to Chief Petty Officer and serve abroad again.

"I'd like to do a bunch of things…go operational again or work with the Seabees," she said. "I'll just have to see how things pan out."

Minix is just one of NHB's hundreds of dedicated hospital corpsman dedicated to getting the job done.

–Story by Shayna Brouker, NHB Public Affairs.

Following the Rule of Law on an Educational Journey

LT Eusebio Flores III has gone to great lengths in Navy medicine as well as higher education. Flores, currently a Physician Assistant (PA) at Naval Hospital Bremerton's Naval Branch Health Clinic, Puget Sound Naval Shipyard (NBHC PSNS), has achieved what could very well be a first for a PA by obtaining his law degree.

"My PA specialty leader, CDR Patricia Miller believes that I am the first PA who has earned a law degree while serving on active duty," said Flores.

Flores initially began his educational pursuit while stationed at Naval Branch Health Clinic, Atsugi, Japan in April 2006. He enrolled in order to obtain an Executive Juris Doctorate degree in Health Law from Concord Law School of Los Angeles, CA. "And did not stop or take any breaks since," noted Flores.

LT Flores takes a brief moment from his law school studies while in Kuwait, en route to Afghanistan. Despite the limited amount of personal gear allowed on his IA deployment, Flores managed to bring all his necessary study material to help him get his law degree. Photo courtesy of LT Flores

Where Flores has gone, so have his study materials. He has lugged his law books from the Far East to the Middle East to the Pacific Northwest to Central Asia.

"I have taken my law books to Japan, where I started (my) first year of law school, even to Thailand on annual leave," said Flores. "I had them here (Bremerton) for my second year, then on to Fort Jackson, SC, in preparation for Individual Augmentee deployment, and Kuwait for additional convoy training prior to Afghanistan." His law book collection was with him as he arrived at Bagram Air Base in Afghanistan to serve with the Army conducting Detainee Medical Operations from May to November 2008.

Despite long working hours providing healthcare for approximately 500-600 detained enemy combatants (Taliban and Al-Qaeda) and the austere conditions, Flores tried to get in his studying as much as possible despite the disconcerting and confounding environment. "I recall all the physical distractions," Flores related. "such as land mine controlled detonations, air assault detonations, C-17, Prowler, Apache, and Blackhawk engine and rotor noise, and small arms fire (AK47, M16s)."

Even during his 4-day R&R pass to Doha, Qatar, Flores resisted the three-beer daily limit to concentrate on his studies. "I took several of my books with me and decided not to have any alcohol whatsoever," recounted Flores. Upon returning to Bagram, he completed his second year and started on his third. "Registering for school without an accessible telephone or fax machine was a nightmare, but my brother-in-law in New York helped me dearly."

Flores considers himself a life-long learner and his accomplishments bear witness. He has two Masters Degrees; a Master of PA studies in Family Medicine from University of Nebraska College of Medicine and Master of Education in Adult/Distance Learning from the University of Phoenix.

"Obtaining this degree was my most challenging and difficult," noted Flores. "I sincerely thank my wife Jessica Wong-Flores, my 12 year old son Eusebio "Matthew" Flores IV, and 2-year-old daughter Emma Yee Flores for not giving up on me. I put them on the "back burner" during these last 3+ years. But now I can come home!"

"The most gratifying aspect of earning my Executive Juris Doctorate is that it was an awesome journey and wonderful learning experience while obtaining it, especially with all the distractions," continued Flores. "Obtaining a degree has many challenges, but it is also very rewarding. My personal statement is, 'There is no end-point to learning. Rather, it is a continuum until the day we die!"

–Story by Douglas H. Stutz, NHB Public Affairs.

NMCSD Orthopedic Surgeon Wins 2009 Academic Research Competition

Naval Medical Center San Diego orthopedic surgeon LCDR Michael T. Provencher recently received first place at the 2009 Academic Research Competition (ARC), Bethesda, MD, for his recent advancements in surgical shoulder repair. Three naval teaching hospitals were represented at the competition; NMCs Bethesda, Portsmouth, and San Diego.

Provencher's research study focused on a shoulder condition identified in active duty military personnel known as circumferential tears of the labrum (cartilage). The labrum is a 360-degree structure and is occasionally torn to its full circumference, but in a number of the cases involved in Provencher's study, full circumference of the labrum was compromised. This condition is most commonly associated with instability and dislocation of the shoulder. Provencher achieved a 90 percent post-operative recovery success rate.

"As extensive an injury to the shoulder joint as this is, a large number of service members returned to full duty with a high level of function in their surgically repaired shoulder," said Provencher.

In the diagnosis and treatment of shoulder injuries, Provencher noted two valuable factors contributing to the success of his research study, the development of a more thorough interview regarding the history of ailment prior to surgery and the use of the Magnetic Response Imaging (MRI) arthrogram. The MRI arthrogram is an image which displays more detail in the interior of the joint than a standard MRI. Arthrogram refers to an injection that emits a contrast agent into the problem area to enable a clearer interpretation and a more accurate assessment.

The Society of Military Orthopedic Surgeons (SOMOS) is a group of Army, Navy, and Air Force surgeons, as a multicenter study, Provencher worked jointly with CDR Daniel J. Solomon and LCOL John T. Tokish of the U.S. Air Force Academy. Provencher referred to the research team as "the SOMOS research collaborative, a coalition of the willing." The surgeons joined forces and shared findings in an effort to increase the success of surgery across the continuum of surgical excellence.

The military requires members to uphold a high standard of physical fitness and often contributes to increased shoulder injuries. Most often, shoulder injuries start with an anterior instability event and become progressively worse when left untreated, according to Provencher.

Dr. Provencher evaluates range of motion of the left shoulder of MSGT Randal M. Wroten. Photo by HM3 Sean Evans, USN

"Some of the unique demands of the military are not always applicable to the civilian population," said Provencher. "It is vital for service members to seek medical care early in order to remedy the injury before it becomes severe and more difficult to treat." Patients are encouraged to see their primary care manager (PCM) if shoulder instability, pain, or discomfort is experienced. Provencher noted that military patients often try to cope with the pain associated with frequent shoulder dislocations. Patients are urged to see their PCM if continued unpleasant discomfort is experienced. There is no need to tolerate pain and feelings of shoulder "looseness" unnecessarily.

"LCDR Provencher's work will help our department treat serious injuries to the shoulder in active duty sailors and Marines," said CAPT Dana C. Covey, chairman, department of orthopedic surgery. "His work has shown that complex labral tears of the shoulder can be successfully treated through minimally invasive (arthroscopic) surgery performed as same-day surgery. This treatment enables most patients to markedly improve and thus return to their usual activities including deployments."

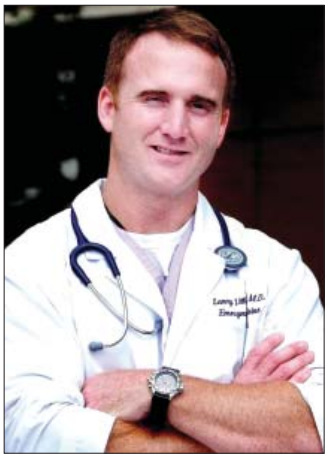
A finalist in over 25 regional and nationwide research competitions throughout his tenure in the Navy, Provencher has gone on to place first in the majority of the research competition he's taken part in. In addition to his research recognition, Provencher was promoted early this year to Principal Reviewer of the American Journal of Sports Medicine. Provencher and his colleague's advancements in surgical shoulder repair have contributed to greater operational readiness throughout the command, providing a greater resource of deployable personnel.

–Story by HM3 Sean Evans, NMC San Diego.

NMCP Doctor Voted Best Resident of 2009

The Council of Emergency Medicine Residency Directors recently named LCDR Lanny Littlejohn as the best resident of the year.

The Naval Medical Center Portsmouth doctor accepted the 2009 CORD Resident Academic Achievement Award in New Orleans.



LCDR Lanny Littlejohn

Selected from nominees from more than 140 programs across the country, the award recognizes an emergency medicine resident who has demonstrated great potential as a future academic faculty member. Qualities that were evaluated include academic productivity, commitment to teaching, and service to the program.

CAPT James Ritchie, Emergency Medicine Residency Director at NMCP, nominated Littlejohn for the award.

"Dr. Littlejohn has established a superb track record of accomplishment, leadership, and education, and was most worthy of this profound honor," said Ritchie.

Littlejohn's extensive work has already directly affected lifesaving technologies and training used on the battlefield and in the United States. After his arrival in residency, he contributed in a new study: Comparison of Three Hemostatic Agents; Chitoflex, Celox, and QuickClot. Despite being the junior member of the multi-person research team, his contributions earned author status. This study was presented at several regional and national meetings, and won the McDade Award for best Emergency Medicine resident research in Virginia.

He immersed himself in the Trauma Combat Care Course (TCCC) and ultimately became the course director. In this position, he taught 13 classes, preparing more than 250 corpsmen for deployment to Afghanistan and Iraq. Further, he developed the TCCC Instructor Course, the first on the East Coast. Because of his innovations, his staff is rewriting the TCCC training course structure for the entire Navy and Marine Corps.

Littlejohn is grateful for the award and the recognition it shines on military medicine. "I felt honored that a national emergency medicine residency award, voted on by residency directors across the country who were primarily civilian, would go to someone so heavily involved in military emergency medicine," said Littlejohn. "It is a great sign that so many people respect what we do on a daily basis, not just in medicine, but throughout the military. It was also a great credit to the residency class that I was involved in. I can't think of a single project that was not furthered by the help of my colleagues. They truly put me on their shoulders to win this award."

Littlejohn maintains an outstanding collection of knowledge in emergency medicine, scoring 94th percentile on his in-training exam. He was elected by all NMCP residents to serve on the Command Quality Committee, and in a field of more than 250 trainees, he was named Officer in Training of the Quarter.

–Story by MC3 Jessica Pounds, NMCP Public Affairs.

Like Mother, Like Daughter

Recently commissioned Nurse Corps Officer ENS Tiffany Woods has joined her mother, LT Karen Alexander, as a staff member at Naval Medical Center Portsmouth. Woods graduated in December from the University of Texas and is in the Nurse Intern Program (NIPS).

Woods had wanted to be in the medical field for as long as she can remember. Becoming a doctor was her initial goal, but while in middle school she changed her mind to nursing, because of the special relationship nurses share with their patients. Now 23, she is enjoying the 12-week NIPS program, rotating every few weeks through different wards.

Woods originally thought she'd like to go to San Diego, but changed her mind. "I would've been there all by myself. I wanted to be somewhere with family nearby, so I wouldn't be stressed," she said. "I'm pretty lucky to be able to come here and be working on the (Pediatric) ward."

Mom Alexander is a graduate of the University of Maryland and commissioned through the Medical Enlisted Commissioned Program. She has been on active duty for 18 years and currently serves as a Perioperative Nurse in the main operating room. She's been at NMCP for about a year and a half.

A while back, Alexander received a Navy recruitment CD and passed it on to Woods, telling her what a good deal it was. "I kind of encouraged her," said Alexander. Woods viewed the disc and was convinced. She sought out a recruiter.

So far, the transition from family dynamics to working relationship has been easy for mom and daughter. Woods said since her mother works in the OR, she rarely sees her in uniform. Alexander joked, "Sometimes (Tiffany) will send me a text message that ends 'Thank you, ma'am.'"

While Woods is not sure about what she would like to specialize in, she feels drawn to the NICU and possibly becoming a Certified Nurse Anesthetist in the future. For

Alexander (left) and Woods. Photo by LT Ulanders A. Craig

now, she plans to learn as much as she can while in NIPS, and looks forward to completing the program and branching out on her own. Woods said, "I like it so far. I'm learning a lot."

Woods hasn't decided whether she will follow her mother's footsteps and make the Navy a career. "We'll have to see. One duty station at a time!" she said.

–Story by LT landers A. Craig and Deborah Kallgren, NMCP.

Naval Health Clinic Employs Virtual Gaming Physical Therapy to Wounded Warriors

The Naval Health Clinic in Charleston, SC, began implementing a new physical therapy treatment that incorporates the Nintendo Wii.

Physical therapy department head, LCDR Matthew Wise, wants his patients to enjoy their exercises and eager to return for future appointments. The more fun patients have, the more they will improve, and the better they will feel, he explained. "Patients enjoy getting something back from using the Wii," Wise said. "Not only are they building up their muscles after an injury, they're also getting the satisfaction of playing a game."

Wii Fit offers a variety of activities from strength workouts, to yoga, and balance exercises. A virtual instructor walks the user through each exercise, coaching, and praising the player along the way. The game allows the player to create goals and explains what needs to be done to reach them in a designated amount of time.

Warriors returning from deployments often have serious mobility problems that need to be addressed. The balance games associated with the Wii Fit are extremely useful for those who are severely injured or have lost a limb. The balance board shows exactly where the user's center of balance is, and the games test one's ability to maintain an even weight distribution. Having good posture and balance will prevent physical injuries down the road, said Wise.

Wise believes that using the Nintendo Wii will encourage elderly patients to become more active, as well. For example, playing a few games of Wii Tennis could potentially make someone want to pick up a racket and start playing again.

"Using the Wii is a great simulator to get back into sports. There is no impact, so there's little chance for injury. Eventually, when your body is used going through the motions, you can leave the video game behind and try the actual activity," Wise said.

Nintendo Wii Consoles were donated by Nintendo to Navy Exchange Command and distributed through the Navy Bureau of Medicine and Surgery to various military treatment facilities throughout the country to support wounded warrior care and rehabilitation.

For more news from Naval Weapons Station Charleston, visit www.navy.mil/local/nwscharleston/.

–Story by Kristina Wolk, Naval Health Clinic Charleston Public Affairs.

HM1 Guy Duke, left, and ET3 Joshua Benedict demonstrate how to use the Wii Fitís yoga program as a therapy tool for patients.
Photo by MM3 Juan Pinalez, USN

RADM Karen A. Flaherty will be assigned as Director of the Nurse Corps, Washington, DC. Flaherty will maintain her current duties as Deputy Chief Wounded, Ill, and Injured, Bureau of Medicine and Surgery, Washington, DC.

CAPT Clinton F. Faison III, who has been selected for promotion to rear admiral (lower half), will be assigned as Deputy Chief of Staff for medical operations, M3/M5, Bureau of Medicine and Surgery, Washington, DC. Faison last served as Commanding Officer, Naval Hospital, Camp Pendleton, CA.

CAPT Eleanor V. Valentin, who has been selected for promotion to rear admiral (lower half), will be assigned as commander, Navy Medicine Support Command/Director of the Medical Service Corps, Jacksonville, FL. Valentin is currently serving as Chief of Staff, National Naval Medical Center, Bethesda, MD.

RDML Richard C. Vinci will be assigned as Chief, Navy Dental Corps/Deputy Chief of staff for installations and logistics, M4, Bureau of Medicine and Surgery, Washington, DC. Vinci is currently serving as chief, Navy Dental Corps/Commander, Navy Medicine Support Command, Jacksonville, FL.

HM3 Anthony C. Garcia, 21, of Tyndall, FL, died 5 August while supporting combat operations in Farah Province Afghanistan. Garcia was assigned to the Marine Corps Base, Kaneohe, HI.

HM3 Benjamin P. Castiglione, 21, of Howell, MI, died 3 September while supporting combat operations in Helmand Province, Afghanistan. Castiglione was assigned to the 2nd Light Armored Reconnaissance Battalion, 2nd Marine Expeditionary Battalion.

RADM William M. Roberts, Chief Medical Corps, and Director, Medical Resources, Plans and Policy Division (N931) Office of the Chief of Naval Operations and former commanding officer of NHB extends congratulatory wishes to Naval Hospital Bremerton Puget Sound Medicine Residency Family Medicine Resident Graduates of 2009 and family members during the official graduation ceremony. Photo by Douglas H. Stutz, NHB Public Affairs

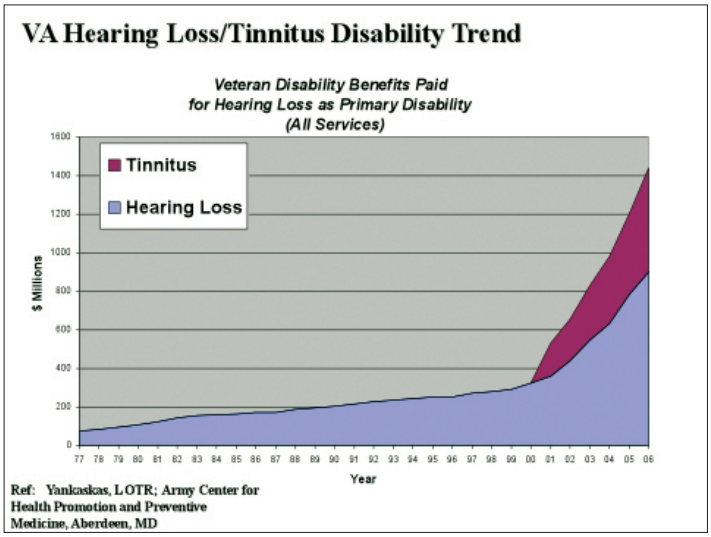
In a traditional change of command ceremony on the grounds of Naval Health Clinic New England (NHCNE) CAPT Elaine C. Wagner relieved CAPT D. Elizabeth Nelson as Commanding Officer of NHCNE. RDML William R. Kiser, Commander, Navy Medicine East and Commander, Naval Medical Center, Portsmouth, VA, was the guest speaker, with more than 400 guests and staff in attendance. CAPT Wagner, a native of southern Indiana, comes to NHCNE from Expeditionary Medical Facility Kuwait where she was the Commanding Officer since April 2008. With a specialty in Pediatric Dentistry, CAPT Wagner has served as the Commanding Officer of Naval Hospital Beaufort, SC, Executive Officer at Naval Hospital Jacksonville, as well as, assignment at National Naval Medical Center, Bethesda, MD as the Director of Surgical Services and the Director of Women's, Children's and Community Health.

Hearing Conservation
The Engineering Part of the Equation
Part II: Ten Years Later

Kurt Yankaskas

The September-October 1999 issue of this journal featured an article written by this author discussing the issue of noise induced hearing loss in the Navy and potential engineering solutions. In the 10 years since then progress has advanced. New technologies developed, and awareness of the problem has increased dramatically. However, hearing loss among naval personnel continues to be a problem as evidenced by audiological reviews. It is also reflected in the disability payments for defective hearing/tinnitus paid by the Veterans Administration (VA) to retiring military personnel. It must be noted that the disability payments is a lagging indicator.

These disability payments represent part of the hidden costs of the deployment of weapon systems and platforms that exceed noise standards (and do not include the cost of supplying and administering hearing aids). The cost to service members' lives and society at large accounts for much more. Accident investigations and studies have also indicated another significant cost generated by excessive noise in the form of communications interference and loss of command and control. When combat personnel can't hear instructions or needed information, accidents happen, combat efficiency suffers, and lives are lost.(*1*)



A 1990 article focused on the excessive noise levels generated on board the CVN-68 class ships of the Navy. Since publication, several more of these vessels have been constructed and are now on active duty.

There have been some improvements in below deck spaces with added acoustic treatments and new ship propellers but without significant improvement in the sound environment on the flight deck.

However, the procurement of the F-35 Joint Strike Fighter (JSF) and the F-18 E/F variant has generated more attention and engineering focus on noise due to the increased performance levels of both aircraft. The F-18 E/F and JSF produce a nominal 148 dBA comparable to legacy aircraft.

However, as these aircraft are fully deployed, the aggregate noise levels will increase on the flight deck. As a result of these noise levels, the JSF program has been tasked with the development of a new flight deck cranial to protect personnel exposed at their duty stations. Aside from the carrier fleet, new surface vessels, such as the Littoral Combat Ship (LCS) and vehicles such as the Marines Expeditionary Fighting Vehicle (EFV) have also entered service.

A noise reduction working group (initiated by the Office of the Deputy Assistant Secretary of the Navy for Safety) reviewed recent noise surveys for LCS-1.

LCS-1 has been found to exceed specified sound levels in 37 percent of the spaces on board. More critically, on LCS-1s, 15 spaces considered audiological quiet areas are over the contract specifications. The Expeditionary Fighting Vehicle (EFV) maintains hazardous noise levels requiring double hearing protection at full speed which is a challenge while wearing a combat helmet. Similar to the aforementioned tactical aircraft, the higher performance levels of these systems have generated higher sound levels than the systems they replace. The combination of increased horsepower and lighter structures designed to attain greater speed or range can significantly increase noise unless sound and vibration control are part of the overall system design.

While incremental improvement has occurred, noise induced hearing loss is still a significant problem.

Engineering Solutions

The first principle of hearing conservation is to engineer out the noise sources. This is readily achieved via a systems engineering approach which includes the role of operators and personnel (human systems engineering). The Navy has decades of systems engineering experience. Over 30 years of surface ship noise control reduced noise in its destroyers in each succeeding class. In the process design guidelines have been developed including the computer based design tool under SBIR N98-092, known as designer noise. some of this technology has been incorporated into the most recent aircraft carrier designs. These engineering and operational solutions to excessive noise and associated hearing loss generally fall into four categories:(*2-4*)

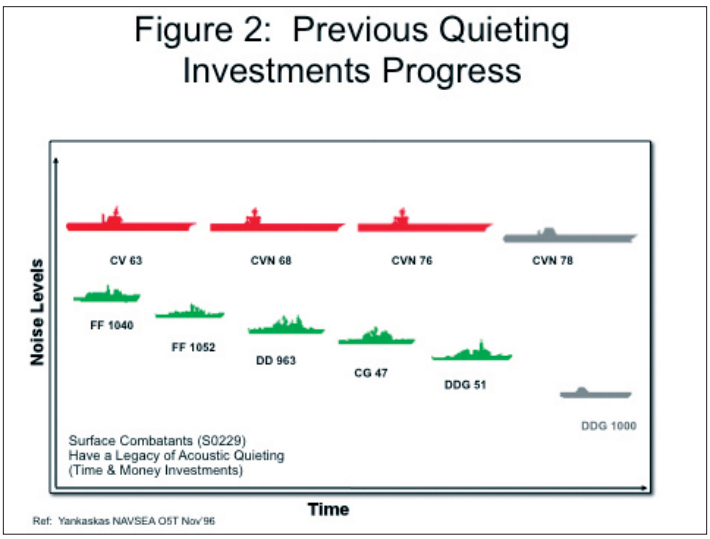
Former President George H. W. Bush and his daughter "Doro" (the ship's sponsor) prepare to observe flight operations aboard the USS *George H. W. Bush* (CVN 77). All personnel are wearing protective hearing gear. Photo courtesy of the George H.W. Bush Medical Department

1) Eliminating or reducing source noise:

Sources of excessive noise abound in military systems and weapons platforms, especially when the design pushes the performance envelope. New platforms that are designed to surpass their predecessors in terms of speed, payload, firepower, range, or overall performance often surpass the noise level of the predecessor as well.

Noise is energy and excessive noise can be thought of as waste energy. Frictional losses in a mechanical system not only reduce overall efficiency, but also increase noise levels. Ventilation systems designed with small radius turns or flow restrictions require more horsepower to move air than a system designed to produce less turbulent flow. They also produce more noise. The same principle could be assigned to any fluid system, including water or hydraulic. Removing restrictions and turbulence will, not only reduce noise levels, but also improve overall system efficiency. A prime example is the replacement propellers on the CVN-68 class vessels which reduced sound levels in some crew areas. The new propellers also happened to be more efficient due to the reduction of cavitation or turbulent flow.

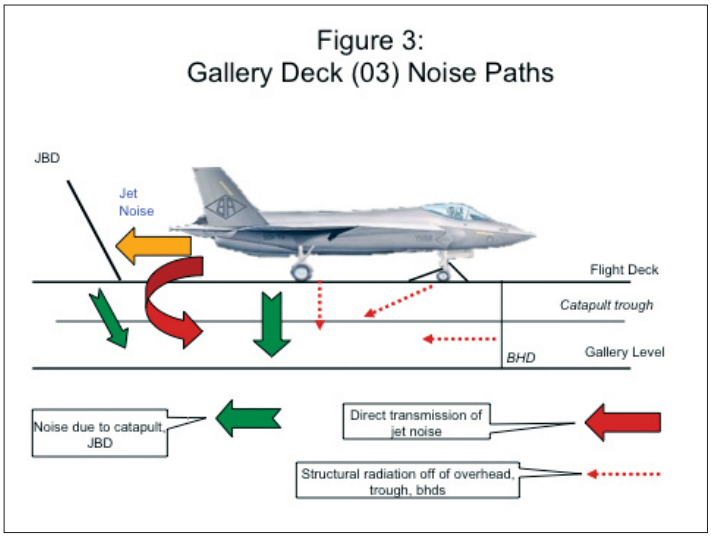
Recently, the transmissions in a CH-46 rotorcraft were rebuilt with "super" machined gears. The gears were machined to much finer tolerances producing a smoother finish that greatly reduces friction in operation and reduces crack initiation points. Not only was the sound level dramatically reduced, but also oil temperatures dropped, shaft horsepower increased, and fuel consumption also dropped. The reduction in friction should also increase the service life of the compo-



nents further reducing maintenance time, costs, lubricant changes, and life cycle costs. The drivetrain in the Marine's Expeditionary Fighting Vehicle (EFV) utilizes gears that produce significant sound levels. Transmissions common to on road heavy trucks utilize gears designed to reduce sound levels and super machined gears could reduce noise levels even further. One major source noise for Marines is the 160+ dB emitted by small arms fire. In many combat situations, especially unconventional and urban warfare, infantry personnel will refuse to wear personnel hearing protection equipment to maintain situational awareness. One potential solution is weapons suppressors issued to combat troops. The small arms noise source closest to the operator's ears is his own weapon and, therefore, the most damaging. We cannot suppress the enemy's weapons, but we can reduce the signature of the Marine's own rifle, reducing his noise exposure and providing a tactical advantage, as well.(5)

Weapons systems, propulsion systems, ventilation and cooling systems, hydraulics, etc., can all be designed to reduce the overall sound levels in areas occupied by sailors and Marines. Eliminating the noise at the source is often the most efficient means for the vessel or vehicle in terms of cost and weight to reduce overall noise levels. Less source noise translates to reduced insulation requirements that leads to reduced system mass. Besides the above mentioned technologies and processes, new technologies designed to increase energy efficiency and/or decrease sound levels are being developed in the commercial sector that could be applied to Navy platforms and equipment. The employment of these new ideas only requires the will to do so along with creative engineering.

Figure 3:
Gallery Deck (03) Noise Paths



2) Insulation and isolation of noise sources:

Insulation and isolation interrupts the paths of noise transmission. Insulating the enclosure surrounding a noisy piece of equipment or an occupied compartment from multiple exterior noise sources can be very effective. Isolation often takes the form of vibration isolation, separating equipment from a vessel or aircraft structure.

Figure 3 shows the various noise paths associated with jet noise propagating into berthing/office spaces. The 12 Pack study discussed in the 1999 article compared several insulation materials in a series of cabins on the gallery deck of USS *Theodore Roosevelt* (CVN-71) which successfully attenuated these noise paths. These were compared on the basis of effectiveness vs. cost, mass, and difficulty of application.

As with all proposed noise control solutions, the entire system including maintenance, logistics, and cost must be taken into account. As one would expect, the most expensive, most massive, and most costly to install technology produced the lowest sound levels in the test cabins. However, the results demonstrated that much less expensive, spray-applied coatings (SBIR N04-221) produced the most cost effective reduction in noise.

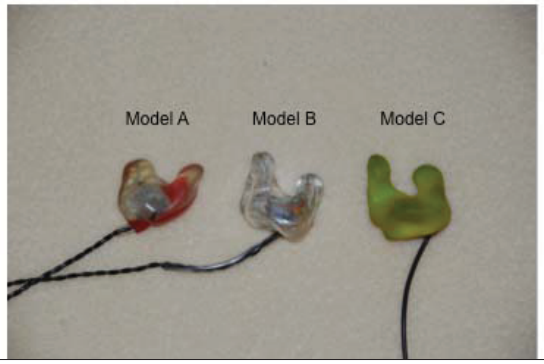
The crew quarters and offices of the Nimitz class gallery deck pose a unique situation. The major noise sources on the flight deck, aircraft engines, are not likely to be replaced with less noisy units. In fact, the reverse has been the case. Increased performance has resulted in increased noise. Therefore, the efficient reduction of source noise described above is not very feasible. Plus, the addition of large amounts of insulation at that level on the vessel present challenges in ship stability and internal volume. Since the reason for the ship's existence is the launch and retrieval of aircraft, ship stability is a critical design feature.

Given the number of Nimitz class vessels and the decades before their eventual replacement allowing for separation of personnel from the flight deck, a lightweight insulation easily retrofitted to the gallery deck becomes the most promising and cost effective answer. This type of retrofit program will, in many cases, be a viable option available to a majority of vessels, weapons platforms, and systems that were designed with a system to reduce excessive sound levels. Structural modifications to isolate noise sources or reduction of the source noise, while more efficient, need to be incorporated in the initial ship design.

3) Improved personal hearing protection:

The flight deck of the aircraft carrier remains one of the loudest environments in the military and produces acute noise exposures. As mentioned above, the noise levels produced by aircraft power plants are not likely to decrease. Therefore, the personal hearing protective equipment becomes the logical engineering solution to defeat

Figure 4: Ear canal depth variations in custom molded earplugs



the excessive noise environment. Hearing protective devices must be individually fitted and worn properly. While foam earplugs can offer significant hearing protection, they must be inserted correctly. The V.S. Bjorn, et al, study surveyed flight deck personnel and found less than 10 percent wore double hearing protection properly.(*6*)

Work performed at the Naval Aeromedical Research Lab (NAMRL) in Pensacola found the ANR systems wanting in 130+ dB environments. Even earplug manufacturers emphasize the importance of correct insertion.(*6*)

Significant advances in the effectiveness and wearability of personal hearing protection have been made over the last 10 years. Musician custom earplugs have been issued for over 40 years. Recently, commercial versions have been developed to accommodate personal sound systems (e.g., iPODs). A custom in-ear monitor earplug has been developed for modern music groups. The manufacturing process results in a deeper placement of the ear piece in the ear canal. In contrast, a deep insertion earplug designed for the extreme noise environment of a flight deck (SBIR N04-255), has a much deeper ear canal insertion depth. The variations in ear canal depth in three commercially available custom molded earplugs is shown in Figure 4. All these products are manufactured from ear canal impressions taken from a standardized ear canal impression technique developed by Naval Air System Command (NAVAIR) and Westone. The length of the ear canal portion is determined by the manufacturer. Model A is a general purpose device for personal music devices. The primary design objectives are music delivery, comfort, and some external noise exclusion. Model B is designed for stage musicians needing high fidelity music delivery, comfort, and stage noise exclusion. Notice the ear canal portion is longer than Model A. Model C is specifically designed for military high noise environments. Due to design requirements, the manufacturing specifications have it going to the second bend of the ear canal which is the deepest of the three models (note: this model is a solid earpiece and does not have an audio channel).

The ear canal insertion depth is an important factor in determining noise attenuation and comfort. Comfort requires an exact fit to the ear canal and becomes more critical for noise attenuation. Attenuation was measured for all three models fitted to a single individual. Figures 5, 6, and 7 present the attenuation as a function of octaveband frequencies. Model A generally provides 20 to 30 dB of noise attenuation in most bands (with some bands higher). Model B generally provides 40 db of attenuation and some bands approaching 50 dB. This is due to the deeper insertion of the earpiece in the ear canal. Model C provides on the order of 50 dB at low frequencies and on the order of 40 dB at the higher frequencies.

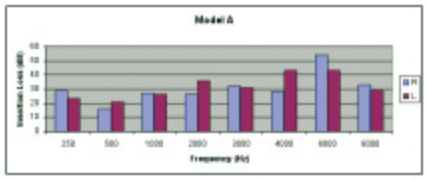


Figure 5: Personal music custom molded attenuation perfomance

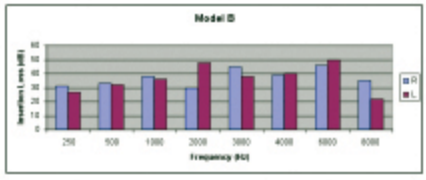


Figure 6: Stage musician custom molded attenuation perfomance

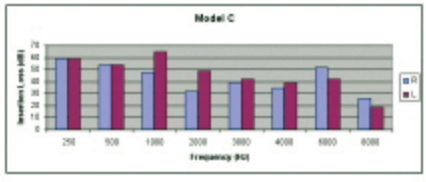


Figure 7: Military high noise environment custom molded attenuation perfomance

A concern has been expressed that use of custom molded earplugs would lead to increases in ear canal health issues. A review of the literature reveals a paucity of incidences and the few that were found had pre-existing ear canal issues. This finding was similar to the conclusions when foam earplugs were first introduced to the workforce. It should be noted that a few individuals may not be able to wear custom earpieces, due to unique ear canal anatomy. The best information available suggests this may be less than 1 percent of the population.

Deep insertion custom molded earplugs with active noise reduction (ANR) component and the development of a new flight deck cranial highlight the new technologies becoming available. Reducing the air volume influenced by the ANR system via the custom molded earplug has improved performance (SBIR AF05-057). New passive noise reduction technologies and materials are being applied to the development of the new cranial to augment ANR plus reduce the effects of bone conduction. There are numerous SBIR topics in process to address these issues through NAVAIR and Office of Naval Research (ONR).

The bone conduction of vibration and noise to the sensitive tissues of the human ear becomes a primary path when earplugs approach 40 dB of attenuation. This is of particular concern in the extreme acoustic environment found on the flight deck. Observations made during the 12 Pack Demonstration Project (on board USS *Theodore Roosevelt* found maintenance of existing personal hearing protection equipment lacking, an issue to be resolved by training and supervision. A shift in the culture of the Navy will be necessary to insure proper maintenance of this equipment becomes part of life aboard ship and that this equipment continues to perform as designed.

4) Operational changes to reduce exposure:

Some environments are so noise intensive that simply removing or reducing the number of personnel exposed may be a viable solution. Automation of functions or remote means of inspection are possible methods to be considered as part of a systematic approach to ship design or refit. One of the goals of the CVX program was the reduction of crew size of 50 percent. Such a reduction would dramatically decrease the operations and life cycle costs for these vessels plus decrease hearing loss compensation by simply reducing the number of personnel exposed to high noise levels. This approach can be applied on a smaller scale to existing ships and other systems.

Sailor is handed the control button in preparation for an audiometry exam. Photo by MC2 Kyle Malloy, USN

Conclusions

Over the last 10 years, the amount of attention paid to the increasing amount of hearing loss sustained by sailors, aviators, and Marines has increased tremendously. However, ships, aircraft, and other systems are still being designed, manufactured, and procured without a systematic approach to reducing the levels of noise these personnel are exposed to. The technology and engineering experience to dramatically reduce noise are well developed in the commercial sector and in the submarine side of the Navy. The Navy's submarines have been designed for decades to reduce their noise signatures and advances in this arena continue to be developed. Much of this expertise would certainly be applicable to surface vessels, amphibious vehicles, aircraft, etc., and would result in reliable increases and energy efficiencies.

It is the responsibility of ship and platform managers and designers to design and build these systems from the start to reduce excessive noise exposure. It is certainly more economical over the life cycle of these vessels to design these capabilities into the design rather than to retrofit once the ship is operational. Currently, the incentive for this design philosophy is lacking, as these managers (or the Navy as a whole) are not responsible for the downstream costs of hearing loss compensation. As long as the VA is paying these bills and the Navy is not held accountable, this situation will be very slow to change.

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Mr. Yankaska is currently on a 2 year assignment to the Office of Naval Research (ONR) from his parent command, Naval Sea Systems Command, Human Systems Engineering Group. He is leading the ONR research efforts associate with noise induced hearing loss.

Survival Mode

Miki Nguyen

The September-October 2008 (pp25-26) and November-December 2008 (pp 22-25) issues of Navy Medicine *ran stories entitled "From Every Direction" and "A Girl Named 'Kirk'" respectively, that described the fall of Saigon and the chaotic end of the Vietnam War in April 1975. In what was called "Operation Frequent Wind," U.S. Navy vessels and their crews rescued thousands of Vietnamese fleeing their homeland. Many escaped the communists aboard South Vietnamese Air Force and Army helicopters, most of those aircraft being Hueys, (UH-1 Iroquois). These helos, designed to carry about 10 fully equipped soldiers or Marines, often arrived with up to 20 people crammed aboard. One landed aboard USS* Midway *(CVA-41) with 29!*

USS Kirk *(DE-1087) took many such aircraft aboard and eventually its crew cared for many refugees while shepherding about 32 vessels of the defunct South Vietnamese Navy to safety across the South China Sea to the Philippines. However, during the very eventful 29 April 1975, one incident occurred that is now legend among* Kirk*'s crew and many of those people they saved.*

Shortly after 2:30 pm, in the midst of all the incoming Hueys, a CH-47 Chinook approached Kirk*'s small flight deck with the intention of landing. It was immediately obvious that this huge twin-rotor aircraft could never land without a major catastrophe. Crewmen waved him off at least twice before he understood the folly of a landing. Instead, he hovered about 10 feet above the fantail while passengers jumped from the Chinook's right front door into the arms of* Kirk *sailors. One crewman, Kent Chipman, recalls catching a baby as if he were hauling in a touchdown pass.*

In moments, all the Chinook's 10 crew and passengers were safely aboard with only the pilot still aboard the aircraft. He then flew about 150 yards off the ship's starboard quarter with the helo's wheels just touching the water. Then in a carefully controlled motion, the pilot rolled the aircraft to the right and dove out the left pilot's door/hatch. As the spinning rotors hit the sea, the Chinook disintegrated with shards of metal flying in every direction.

Kirk*'s motor whaleboat was already in the water and headed toward the swimming pilot. In short order he was aboard ths ship wearing only a set of brightly colored boxer shorts and a tee-shirt. "If only we knew that brave pilot's name," many a* Kirk *veteran has said over the intervening years. "He was the bravest man I ever saw."*

Former Chinook pilot Ba Van Nguyen holds up a shadow box containing the boxer shorts he wore that fateful day. Photo by Miki Nguyen

But in the chaos of the time, no one had recorded the man's name. It was not until this past July that the mystery was finally solved. And herein lies the story. CAPT Paul Jacobs, former commanding officer of Kirk*, and Jan Herman, Historian of the Navy Medical Department, were interviewed about the events of April 1975 for a local Washington TV show catering to the local Vietnamese-American community. One element of the discussion focused upon the Chinook story and the identity of the pilot. The word soon spread throughout Vietnamese-American communities nationwide and before long CAPT Jacobs received an email from the pilot's son, Miki Nguyen. The following is an excerpt from that email.*

I cannot believe this moment. I have been at a loss for words this whole day. It's like a very important piece of our life's puzzle has just been discovered nearly 35 years later. My mother and I are just so pleased to have connected with you and the *Kirk* crew and our association on this email. Although my father [Ba Van Nguyen] is still alive, Alzheimer's has slowed him down and he is unable to talk. After finding the news yesterday, I quickly came to visit him and showed him the picture of the *Kirk* and asked if he remembered anything about this ship. Although he could not speak, the tears in his eyes said it all. For my family, this moment has a very special meaning.

As a 6-1/2-year-old, I remember that day very well. Our immediate family was stationed in Bien Hoa, where I grew up playing around in the barracks. The days leading up to the 29th were very chaotic in Saigon. However, my dad instructed us to be with our grandmother in Saigon. I recall heavy shelling and missiles flying in the city during the night. The morning of the 29th [of April], we heard the unmistakable sound from a Chinook approaching grandma's house. We all ran out of the house to find that my dad was about to land this huge Chinook in the small front field. The door popped open and we saw one of his crewmen frantically waving us to come on board. Quickly my mother grabbed me, my younger brother (then 3) and sister (then only 12 months old) and ran to get on the Chinook and fly off. My father noted that at the time, it was very much like a western movie where you had your horse (chopper) and you just rode as quick as you could.

He landed further south to get whatever rations he could find—gas, water, and food—and picked up a few more of his crewmen, noting that maybe we could fly to a remote island or some other safer location to buy time. At this moment it was simply survival mode. Off went the Chinook with 11 members on board.

As he flew out, he said he heard on the radio that there was an American ship out in the Pacific. Loosely translated, he said "What the heck, let's give it a shot." Upon flying out, he spotted an American naval ship in the distance and tried to approach it in a non-threatening way if at all possible. He circled the ship a few times to indicate that he needed assistance and saw the crew below pointing guns at him. He could only interpret that he was to not land on board. He noted that the seas that day were rough and windy and he had a challenging time trying to steady the Chinook for "personnel drop-off." He recounts that he was very cautious about staying away from any radar or antenna from the ship as hitting those would do more harm than anything else to the ship from a communications standpoint.

As the door opened up, a few of the crew members jumped out, and shortly thereafter my mother grabbed my sister and nearly forgot my little brother who was sleeping on the floor and immediately sent them down to helping hands below. My dad told his co-pilot to do one more check and afterwards hop out.

He proceeded to fly out a safe distance and began to quickly rip off his flak jacket and side arm and got down to his undershirt and boxers. As he kicked the left door open, from here onwards you saw the rest. He noted, however, that it was very difficult for him to dive underwater because of the salt water buoyancy. He said it took him three attempts to actually get beneath the water to get away from the blades. At that moment, all he could hope for was someone to come and get him.

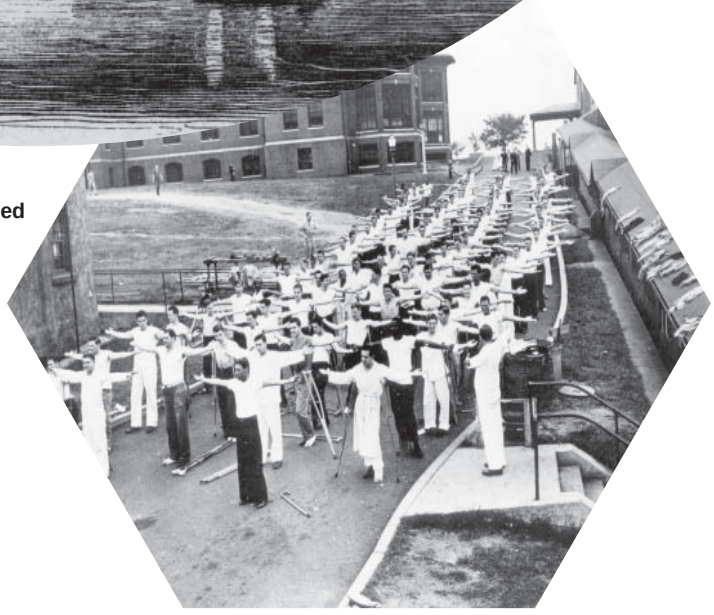
Shortly thereafter, his prayers were answered as a small boat came to his rescue. My parents said they stayed on the ship for a day or so before moving to a much larger ship the next day. Everything was simply a whirlwind of events one after the other.

Fast forward. We ended up being sponsored by a church in the Seattle area after staying at Camp Pendleton for a month. My dad studied electronics and eventually worked for Boeing till his retirement 6 years ago. He and my mom worked hard and sent all three of us through college. Through the years, my mom kept his shirt and boxer shorts that he had after stepping on *Kirk*. Upon his retirement, I box framed his shirt and boxers as a gift and symbol of how we started here in the U.S.

Throughout the years I have heard my dad share his "war stories" with his buddies around the dinner table and the epic moment during the 29th of April. I can sincerely speak for my dad and my family in letting you know how your bravery and compassion has helped my family and the many hundred others that sought refuge on *Kirk* during those days. With this encounter, you have allowed us the chance to circle back on this moment, put a name and face to the crew that helped us, to say thank you from the bottom of our hearts, and acknowledge that you and your crew made a huge difference to the lives of many. So many things could have gone wrong that day for our family and for my dad. Our freedom began when we set foot on *Kirk*.

Miki Nguyen lives in Woodinville, WA.

Navy Medicine 1836-1974



Naval Hospital Chelsea, MA.
Situated along the banks of the Mystic River in a suburb northeast of Boston. Naval Hospital Chelsea was commissioned on 7 January 1836.
In the 19th century the facility earned a reputation as the only naval hospital on the Atlantic Coast to be entirely free from malaria. This rendered it a desirable place for the treatment of the Navy malarial patients from southern cruises.
During World War II, LT John F. Kennedy was a patient there.
The hospital was disestablished on 28 June 1974.

Photos from BUMED archives.

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